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EXAMINER
ALLEN, DENISE S

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/007,784	WIKLOF ET AL.	
	Examiner	Art Unit	
	Denise S Allen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 June 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *06 May 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

It is noted that the Applicant has complied with the conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) by amending the specification to contain a specific reference to the prior application(s) in the first sentence of the specification.

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on May 6, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

In light of the Applicant's amendment to the specification on May 6, 2003 (paper #12), the objections to the drawings in the Office Action on January 2, 2003 (paper #9) have been withdrawn.

Response to Amendment

The substitute specification filed on May 6, 2003 has been entered.

In light of the Applicant's amendment to the specification on May 6, 2003 (paper #12), the objections to the specification in the Office Action on January 2, 2003 (paper #9) have been withdrawn.

In light of the Applicant's amendment to claims 3 and 7 on May 6, 2003 (paper #13), the objections to claims 3 and 7 in the Office Action on January 2, 2003 (paper #9) have been withdrawn.

Response to Arguments

In the Applicant's response on May 6, 2003 (paper #13), the Applicant argues with respect to claims 1 - 9, that both Shepard et al and Dvorkis et al fail to teach or reasonable suggest a beam sweep mechanism that includes a permanent magnet as recited in the amended claim 1 (pages 11 and 12). This argument has been fully considered and found to be persuasive. The Examiner agrees that both Shepard et al and Dvorkis et al do not teach a beam sweep mechanism with a permanent magnet but rather with an electromagnet.

The rejection of claims 1 – 3, 5, and 6 under 35 U.S.C. 102(b) as being anticipated by Shepard et al in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

The rejection of claims 1 and 7 - 9 under 35 U.S.C. 102(b) as being anticipated by Dvorkis et al in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

The rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Peng in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

The Applicant further argues with respect to claims 21 - 25, that both Shepard et al and Dvorkis et al fail to teach or reasonable suggest sweeping a beam by moving a magnet that is not attached to a beam reflector (pages 11 - 14). This argument has been fully considered and found to be persuasive. The Examiner agrees that in both Shepard et al and Dvorkis et al the only magnet that moves is attached to the beam reflector.

The rejection of claims 21 - 24 under 35 U.S.C. 102(b) as being anticipated by Shepard et al in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

The rejection of claims 21 and 25 under 35 U.S.C. 102(b) as being anticipated by Dvorkis et al in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

The Applicant further argues with respect to claims 10 – 14 and 26 – 29, that Dvorkis et al fails to teach or reasonable suggest a beam sweep mechanism having a second magnet operable to retain the mirror in a home position by attracting the first magnet and to rotate the mirror by repelling the first magnet as recited in the unamended claim 10 and the amended claim 26 (pages 13 and 14). This argument has been fully considered and not found to be persuasive.

The examiner respectfully disagrees with the Applicant's argument. Dvorkis et al teaches a beam sweep mechanism (Figure 2) having a second magnet (reference 58) that is operable to retain the mirror (reference 52) by attracting the first magnet (reference 56) and to rotate the mirror by repelling the first magnet (column 7 lines 16 – 23).

The Applicant further argues with respect to claims 15 - 20, that the combination of Shepard et al and Peng fails to teach or reasonable suggest a beam sweep mechanism with a second magnet configured for mechanical movement between a first position where the second magnet attracts the first magnet and a second position where the second magnet repels the first magnet as recited in the unamended claim 15 (pages 14 - 15). This argument has been fully considered and found to be persuasive. The Examiner agrees that Peng teaches a movable second magnet that repels the first magnet in one position, but does not attract the first magnet in the other position.

The rejection of claims 15 – 20 under 35 U.S.C. 103(a) as being unpatentable over Shepard et al in view of Peng in the Office Action on January 2, 2003 (paper #9) has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 5 – 9, 15 – 17, 19 – 25, and 30 – 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Onimaru et al (US 5,252,816).

Regarding claim 1, Onimaru et al teaches a scanner (Figure 1 reference 1), comprising: a beam generator (reference 3) operable to generate a scan beam (reference 301); a beam-reflector assembly (reference 6) having a first magnet (Figure 6A reference 6d) and operable to sweep the scan beam (Figure 8); and a beam-sweep mechanism (reference 2) having a permanent second magnet (reference 2b) and operable to activate the beam-reflector assembly by exerting a first force on the first magnet with the second magnet (Figure 6A).

Regarding claims 2 and 16, Onimaru et al teaches the beam generator comprises a laser diode (column 3 line 41).

Regarding claim 3, Onimaru et al teaches a beam detector (reference 4) operable to read a return beam (reference 302) reflected from a target (reference 10).

Regarding claims 5 and 23, Onimaru et al teaches the beam-sweep mechanism causes the beam-reflector assembly to rotate back and forth by exerting the first force on the first magnet with the second magnet (Figure 6A).

Regarding claims 6 and 24, Onimaru et al teaches the beam-sweep mechanism causes the beam-reflector assembly to rotate back and forth and damps the rotation by exerting the first force on the first magnet with the second magnet (Figures 6A and 6B).

Regarding claim 7, Onimaru et al teaches the beam-sweep mechanism deactivates the beam-reflector assembly by exerting a second force on the first magnet with the second magnet, the second force being opposite to the first force (Figure 6B)

Regarding claim 8, Onimaru et al teaches the beam-sweep mechanism is operable to retain the beam-reflector assembly in a home position by exerting a second force on the first magnet with the second magnet, the second force being opposite to the first force (Figures 6A, 6B, and 8 with the home position at the beginning of each horizontal scan).

Regarding claim 9, Onimaru et al teaches the beam-sweep mechanism causes the beam-reflector assembly to rotate back and forth by exerting the first force on the first magnet with the second magnet; and causes the beam-reflector assembly to return to a home position by exerting a second force on the first magnet with the second magnet, the second force being opposite to the first force (Figures 6A, 6B, and 8 with the home position at the beginning of each horizontal scan).

Regarding claim 15, Onimaru et al teaches a scanner (reference 1), comprising: a beam generator (reference 3) operable to generate a scan beam (reference 301); a beam-reflector assembly (reference 6) having a first magnet (reference 6d) and operable to sweep the scan beam (Figure 8); and a beam-sweep mechanism (reference 2) having a second magnet (reference 2b) configured for mechanical movement (reference 7) between a first position (Figure 6A) in which

the second magnet attracts the first magnet and a second position (Figure 6B) in which the second magnet repels the first magnet.

Regarding claim 17, Onimaru et al teaches the beam-reflector assembly comprises a rotatable mirror (reference 6a).

Regarding claim 19, Onimaru et al teaches the beam-sweep mechanism causes the beam-reflector assembly to sweep the scan beam when the second magnet repels the first magnet (Figure 6A).

Regarding claim 20, Onimaru et al teaches the beam-sweep mechanism causes the beam-reflector assembly to remain in or to move to a home position when the second magnet repels the first magnet (Figure 6B).

Regarding claim 21, Onimaru et al teaches a means for generating a scan beam (reference 301); a means for sweeping the beam (Figure 8) across a target (reference 10) by moving a magnet (reference 2b) to exert a first magnetic force on a beam reflector (reference 6), the magnet being unattached to the beam reflector (reference 2b is not attached to reference 6).

Regarding claim 22, Onimaru et al teaches a means for reading (reference 4) a return beam (reference 302) reflected from the target by exerting the first magnetic force on the beam reflector.

Regarding claim 25, Onimaru et al teaches a means for returning the beam reflector to a home position after sweeping the beam by moving the magnet to exert a second magnetic force on the beam reflector (Figure 6B).

Regarding claim 30, Onimaru et al teaches the beam sweep mechanism is further operable to deactivate the beam reflector assembly by exerting a second force on the first magnet with the second magnet (Figure 6B).

Regarding claim 31, Onimaru et al teaches the first force comprises a repelling force (Figure 6A North pole repels north pole).

Regarding claim 32, Onimaru et al teaches the beam weep mechanism is further operable to deactivate the beam reflector assembly by exerting a second force on the first magnet with the second magnet (Figure 6B); the first force comprises a repelling force (Figure 6A North pole repels north pole); and the second force comprises an attractive force (Figure 6B South pole attracts north pole).

Claims 10 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Dvorkis et al.

Dvorkis et al teaches a scanner (Figure 2), comprising a beam generator (reference 70) operable to generate a scan beam; a beam detector operable to read a return beam reflected from a target; a beam reflector assembly having a mirror (reference 52) and a first magnet (reference 56), the mirror operable to sweep the scan beam across the target; and a beam-sweep mechanism having a second magnet (reference 58) and operable to, retain the mirror of the beam-reflector assembly in and return the mirror to a home position by attracting the first magnet with the second magnet (column 7 lines 16 – 23), and rotate the mirror of the beam-reflector assembly back and forth in an underdamped manner by repelling the first magnet with the second magnet (column 7 lines 16 – 23).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onimaru et al in view of Peng.

Onimaru et al teaches a scanner as described above. Onimaru et al does not teach a beam-reflector assembly comprising a multi-faceted mirror that is operable to reflect the scan beam onto a target.

Peng teaches a beam-reflector assembly (Figure 13) comprising a multi-faceted mirror (reference 22) that is operable to reflect the scan beam (reference 1) onto a target (reference 48) and is operable to rotate the mirror to sweep the scan beam across the target when the beam reflector assembly is activated by the beam-sweep mechanism (reference 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the beam-reflector assembly of Peng in the scanner of Onimaru et al in order to make multiply scans in one cycle of the beam sweep mechanism.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al in view of Peng.

Dvorkis et al teaches a scanner as described above. Dvorkis et al does not teach the beam-reflector assembly is operable to direct the return beam to the beam detector while sweeping the scan beam across the target.

Peng teaches a beam-reflector assembly (Figure 8 reference 2) operable to direct the return beam (arrows in opposite direction of reference 1) to the beam detector (reference 50) while sweeping the scan beam (reference 1) across the target (reference 48). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the beam-reflector assembly of Peng in the scanner of Dvorkis in order to reduce the number of parts required to generate a scan beam and detect a return beam.

Claims 12 – 14 and 27 – 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al in view of Shepard et al.

Regarding claims 12 and 27, Dvorkis et al teaches a scanner as describe above. Dvorkis et al does not teach a button that is coupled to the beam-sweep mechanism and that is operable to cause the beam-sweep mechanism to rotate the mirror of the beam-reflector assembly back and forth when pushed and cause the beam-sweep mechanism to retain the mirror of the beam-reflector assembly in or return the mirror to the home position when released.

Shepard et al teaches a button (Figure 2 reference 13) that is coupled to the beam-sweep mechanism (reference 24) and that is operable to cause the beam-sweep mechanism to rotate the mirror (reference 22) of the beam-reflector assembly back and forth when pushed and cause the beam-sweep mechanism to retain the mirror of the beam-reflector assembly in or return the mirror to the home position when released (column 6 line 25 – column 7 line 32). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the button of Shepard et al in the scanner of Dvorkis et al in order to provide a means to activate the scanner.

Regarding claims 13 and 28, Shepard et al teaches a button (Figure 2 reference 13) and a trigger mechanism (reference 40) coupled to the button and the beam-sweep mechanism

(reference 24) and operable to cause the beam-sweep mechanism to rotate the mirror of the beam-reflector assembly back and forth only when the button is pushed a first predetermined distance from a button-released position and cause the beam-sweep mechanism to return the mirror of the beam-reflector assembly to the home position only when the button is released a second predetermined distance from a button-pushed position (column 6 line 25 – column 7 line 32).

Regarding claims 14 and 29, Shepard et al teaches a button (Figure 2 reference 13) and a trigger mechanism (reference 40) coupled to the button and the beam-sweep mechanism (reference 24) and operable to cause the beam-sweep mechanism to rotate the mirror of the beam-reflector assembly back and forth only when the button is pushed with at least a first predetermined force and cause the beam-sweep mechanism to return the mirror of the beam-reflector assembly to the home position only when the pushing force on the button drops to or below a second predetermined force (column 6 line 25 – column 7 line 32).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Onimaru et al.

Onimaru et al teaches a scanner as described above. Onimaru et al does not teach a button coupled to the beam-sweep mechanism, the button designed to be pushed with an operator's thumb. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a button coupled to the beam-sweep mechanism, the button designed to be pushed with an operator's thumb in the scanner of Onimaru et al in order to provide an operator a means to initiate scanning.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (703) 305-7407. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (703) 305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Denise S Allen
Examiner
Art Unit 2872

dsa
July 2, 2003

Audrey Chang
Primary Examiner
Technology Center 2800